

Experiment Readiness Review of Physics Division

Hall C SHMS Q2, Q3, and Dipole: Resource Loaded Schedule

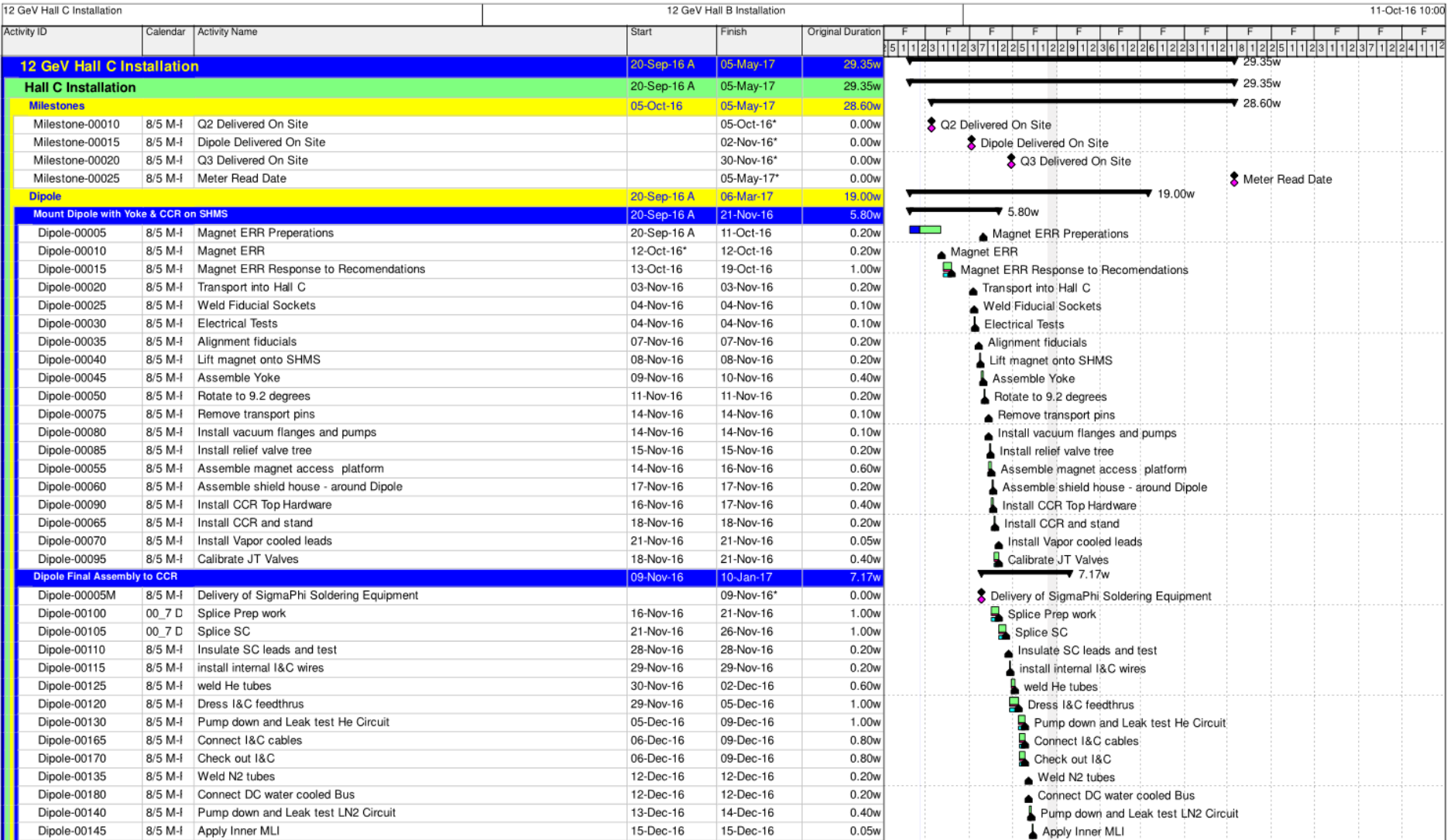
Steven Lassiter

October 12, 2016

Schedule

- Schedule prepared taken in account experiences of previous magnet installations: HMS magnets and SHMS Q1 and HB.
- Use of overtime, double shifts and weekend work will be employed to maintain schedule.
- Resources from other areas of the Lab have been identified to assist if need be.

Dipole Schedule

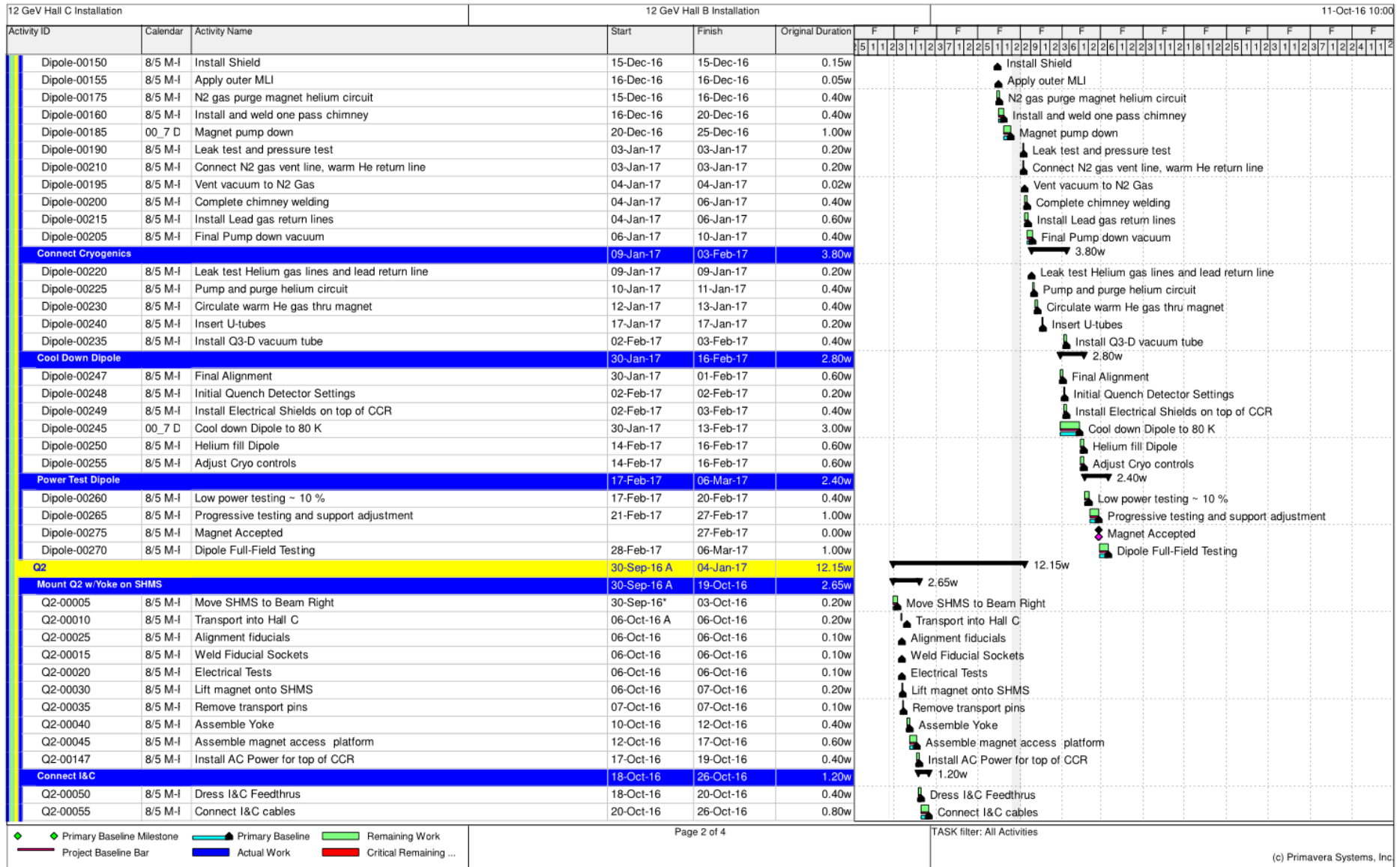


◆ Primary Baseline Milestone
 ▬ Primary Baseline
 ▬ Remaining Work
▬ Project Baseline Bar
 ▬ Actual Work
 ▬ Critical Remaining ...

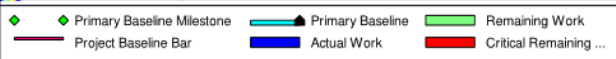
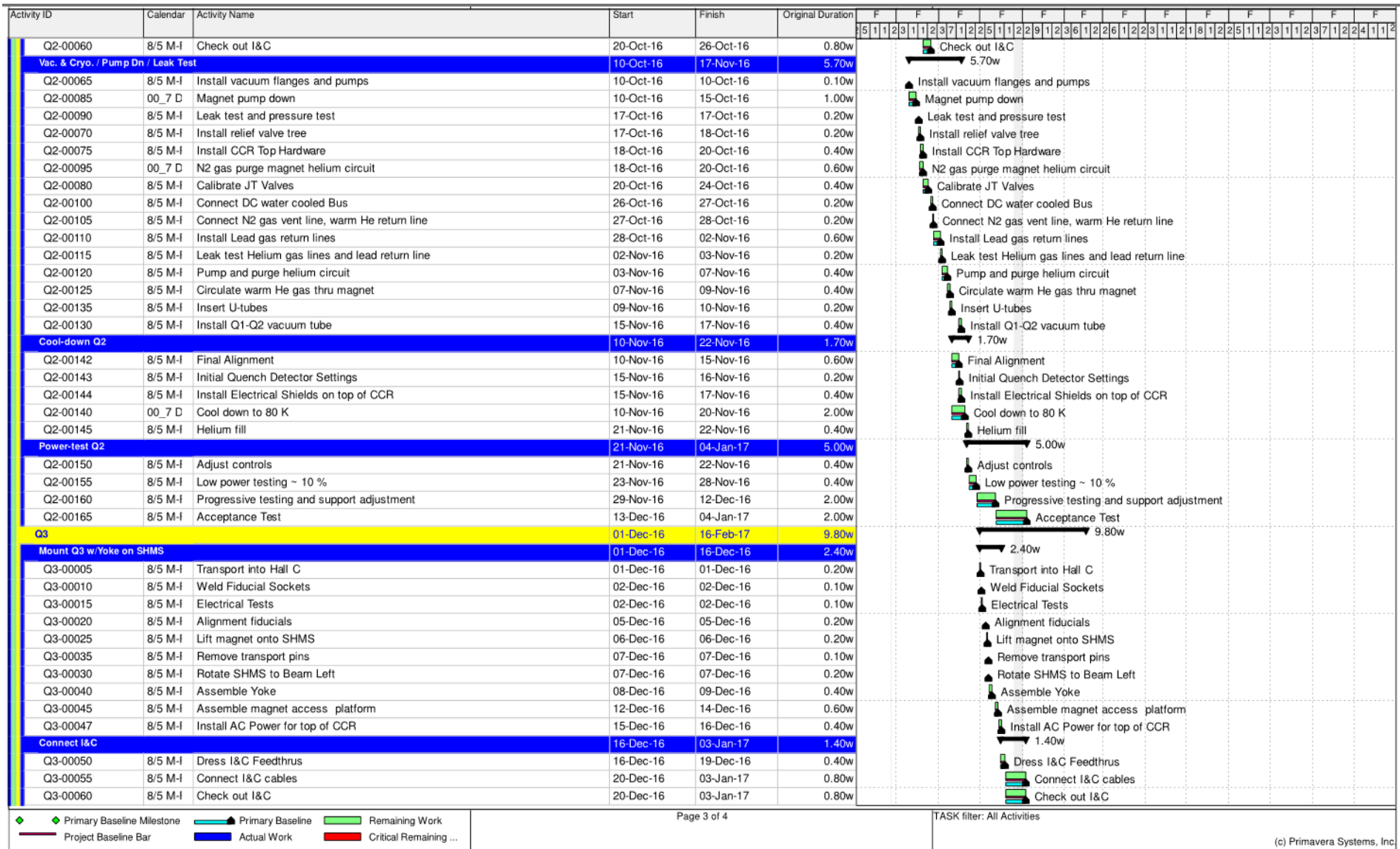
Resources

Activity ID	Activity Name	Resource Name	Resource Type	Start	Finish	Budgeted Units
Q2-00005	Move SHMS to Beam Right	Hall C Tech	Labor	30-Sep-16	3-Oct-16	1
Q2-00025	Alignment fiducials	Alignment Tech	Labor	6-Oct-16	6-Oct-16	3
Q2-00030	Lift magnet onto SHMS	Hall C Techs	Labor	6-Oct-16	7-Oct-16	1
Q2-00020	Electrical Tests	Hall C Engineer	Labor	6-Oct-16	6-Oct-16	0.5
Q2-00030	Lift magnet onto SHMS	Hall C Tech	Labor	6-Oct-16	7-Oct-16	3
Q2-00015	Weld Fiducial Sockets	Hall C Tech	Labor	6-Oct-16	6-Oct-16	0.5
Q2-00015	Weld Fiducial Sockets	Hall C Welder	Labor	6-Oct-16	6-Oct-16	0.5
Q2-00035	Remove transport pins	Hall C Tech	Labor	7-Oct-16	7-Oct-16	1.5
Q2-00040	Assemble Yoke	Hall C Tech	Labor	10-Oct-16	12-Oct-16	6
Q2-00065	Install vacuum flanges and pumps	Hall C Tech	Labor	10-Oct-16	10-Oct-16	1
Q2-00085	Magnet pump down	Hall C Tech	Labor	10-Oct-16	15-Oct-16	1
Q2-00045	Assemble magnet access platform	Hall C Tech	Labor	12-Oct-16	17-Oct-16	9
Dipole-00015	Magnet ERR Response to Recommendations	Hall C Engineer	Labor	13-Oct-16	19-Oct-16	5
Q2-00147	Install AC Power for top of CCR	ELEC TECH ELECTRICIAN	Labor	17-Oct-16	19-Oct-16	4
Q2-00090	Leak test and pressure test	Hall C Engineer	Labor	17-Oct-16	17-Oct-16	1
Q2-00090	Leak test and pressure test	Hall C Tech	Labor	17-Oct-16	17-Oct-16	1
Q2-00070	Install relief valve tree	Hall C Tech	Labor	17-Oct-16	18-Oct-16	2
Q2-00095	N2 gas purge magnet helium circuit	Hall C Tech	Labor	18-Oct-16	20-Oct-16	3
Q2-00075	Install CCR Top Hardware	Hall C Tech	Labor	18-Oct-16	20-Oct-16	2
Q2-00050	Dress I&C Feedthrus	Spec Support Group	Labor	18-Oct-16	20-Oct-16	2
Q2-00060	Check out I&C	Hall C Engineer	Labor	20-Oct-16	26-Oct-16	4
Q2-00080	Calibrate JT Valves	Hall C Engineer	Labor	20-Oct-16	24-Oct-16	1
Q2-00055	Connect I&C cables	Hall C Tech	Labor	20-Oct-16	26-Oct-16	4
Q2-00080	Calibrate JT Valves	Hall C Tech	Labor	20-Oct-16	24-Oct-16	2
Q2-00100	Connect DC water cooled Bus	Hall C Tech	Labor	26-Oct-16	27-Oct-16	2
Q2-00100	Connect DC water cooled Bus	Spec Support Group	Labor	26-Oct-16	27-Oct-16	1
Q2-00105	Connect N2 gas vent line, warm He return line	Hall C Tech	Labor	27-Oct-16	28-Oct-16	2
Q2-00110	Install Lead gas return lines	Hall C Tech	Labor	28-Oct-16	2-Nov-16	6
Q2-00115	Leak test Helium gas lines and lead return line	Hall C Tech	Labor	2-Nov-16	3-Nov-16	1
Q2-00120	Pump and purge helium circuit	Hall C Tech	Labor	3-Nov-16	7-Nov-16	2
Dipole-00020	Transport into Hall C	Lockwood	Nonlabor	3-Nov-16	3-Nov-16	1
Dipole-00030	Electrical Tests	Hall C Engineer	Labor	4-Nov-16	4-Nov-16	0.5
Dipole-00025	Weld Fiducial Sockets	Hall C Welder	Labor	4-Nov-16	4-Nov-16	0.5
Dipole-00035	Alignment fiducials	Alignment Tech	Labor	7-Nov-16	7-Nov-16	2
Q2-00125	Circulate warm He gas thru magnet	ESR operator	Labor	7-Nov-16	9-Nov-16	0.4
Q2-00125	Circulate warm He gas thru magnet	Hall C Tech	Labor	7-Nov-16	9-Nov-16	2
Dipole-00040	Lift magnet onto SHMS	Hall C Tech	Labor	8-Nov-16	8-Nov-16	3
Dipole-00040	Lift magnet onto SHMS	Lockwood	Nonlabor	8-Nov-16	8-Nov-16	1
Q2-00135	Insert U-tubes	ESR operator	Labor	9-Nov-16	10-Nov-16	1
Dipole-00045	Assemble Yoke	Hall C Tech	Labor	9-Nov-16	10-Nov-16	6
Q2-00135	Insert U-tubes	Hall C Tech	Labor	9-Nov-16	10-Nov-16	2
Q2-00142	Final Alignment	Alignment Tech	Labor	10-Nov-16	15-Nov-16	6
Q2-00140	Cool down to 80 K	Hall C Engineer	Labor	10-Nov-16	20-Nov-16	1
Q2-00142	Final Alignment	Hall C Tech	Labor	10-Nov-16	15-Nov-16	6

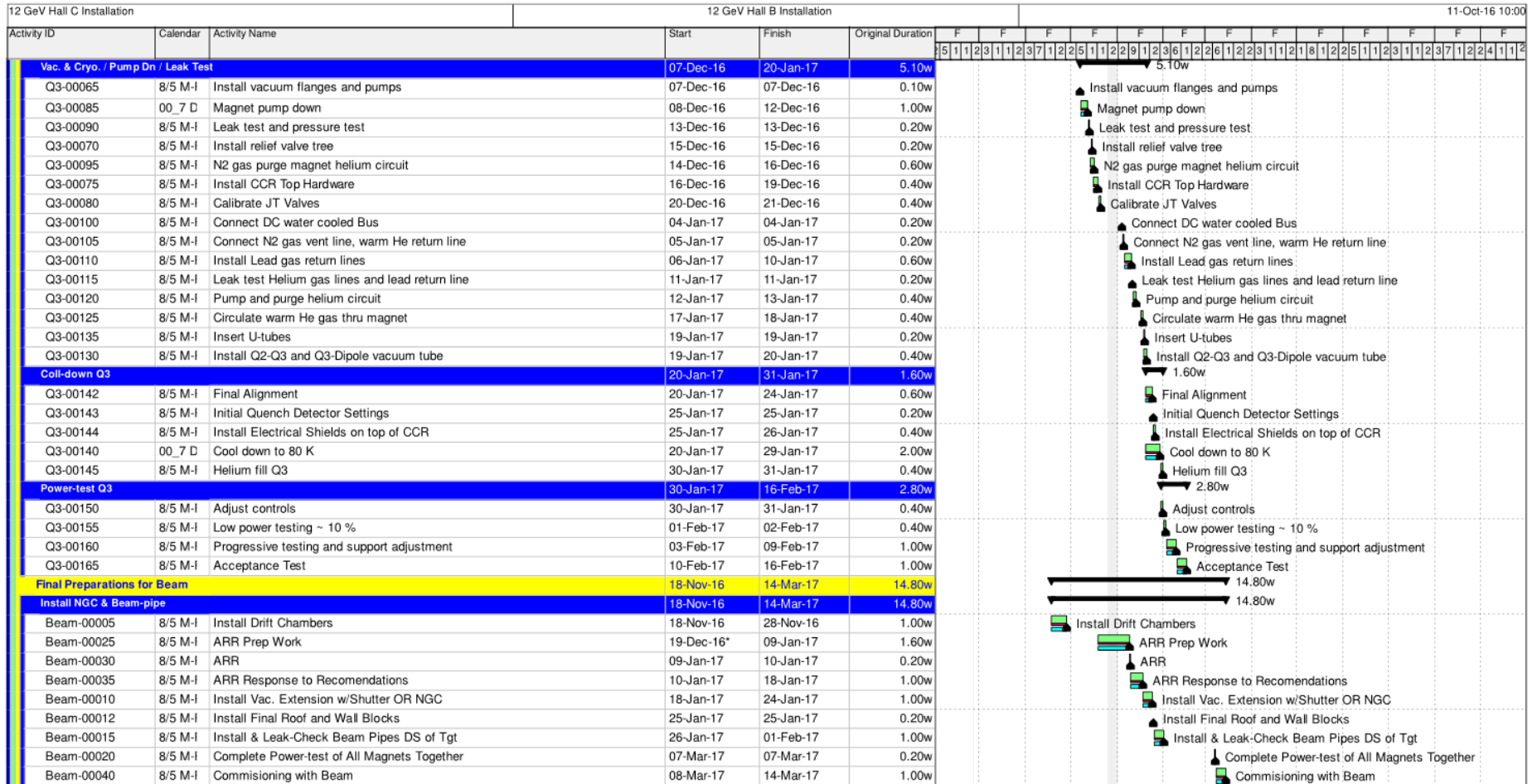
Dipole-Q2 Schedule



Q2-Q3 Schedule



Q3-Final Preparations Schedule



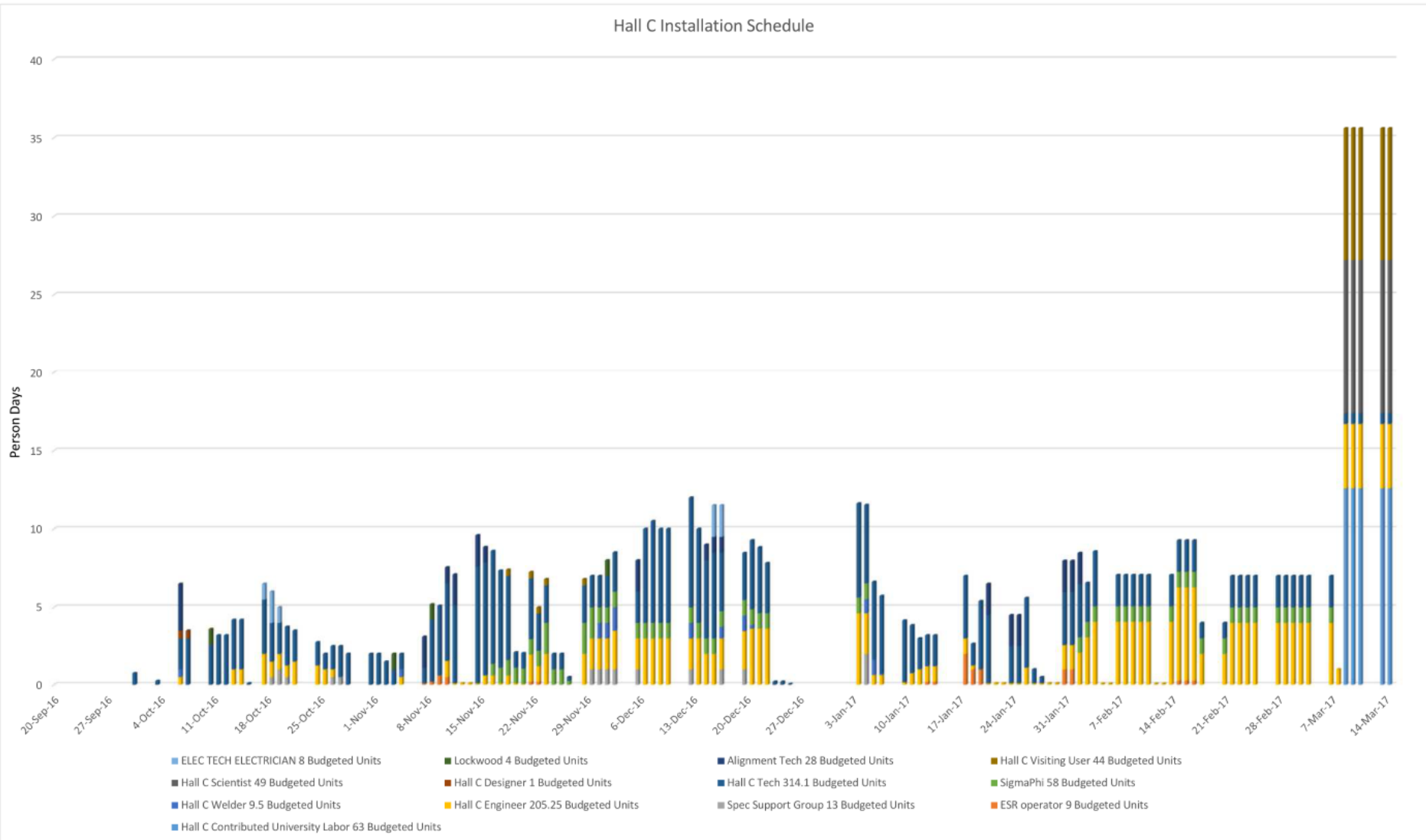
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Key Dates

- **Delivery**
 - Q2 Oct 06 2016
 - Q3 Dec 01 2016
 - Dipole Nov 03 2016
- **Cool down Starts**
 - Q2 Nov 10 2016
 - Q3 Jan 20 2017
 - Dipole Jan 30 2017
- **Power Testing Starts**
 - Q2 Nov 23 2016
 - Q3 Feb 01 2017
 - Dipole Feb 17 2017
- **Magnet Accepted**
 - Q2 Jan 04 2017
 - Q3 Feb 16 2017
 - Dipole Mar 06 2017
- **Power Test all SHMS Magnets**
 - Mar 7 2017
- **Commissioning with Beam**
 - Mar 8-14 2017

Manpower

Hall C Installation Schedule



Summary

- A schedule has been developed for the installation, testing, calibration and commissioning of the SHMS Magnets that is based on previous magnet installations.
- Schedule is mostly sequential per magnet and parallel among magnets.
- Schedule is based on experiences from previous magnets.